Programmatic Biological Assessment of the Road Management Program

Road Maintenance
Minor Reconstruction and Repair
Snow Plowing

Nez Perce National Forest

Fall Chinook Salmon, Spring/Summer Chinook Salmon, Steelhead Trout, and Bull Trout (ESA listed)

Westslope Cutthroat Trout and Spring Chinook Salmon (USFS sensitive)

Introduction

This programmatic Biological Assessment (BA) covers Road Maintenance, Minor Reconstruction and Emergency Repair of roads, and Snow Removal from roads.

This is a programmatic BA, it assesses the effects of the road management programs, not the individual projects that are implemented under these programs. A determination of effect is made for the programs, which is a valid assessment of the potential effects of the projects completed under these programs, if the projects are consistent with the design criteria and monitoring and reporting requirements contained in the project description and summaries.

Description of Area

This BA addresses the lands managed by the Nez Perce National Forest Forest[1] in North Central Idaho. The description of this area is contained in this 4th code BA (Page XX), along with the 5th code BA's for portions of this subbasin. This material will not be repeated here, but it constitutes the description of the area considered in the BA.

Description of Species

This BA addresses the lands managed by the Forest, and as such includes the species that occupy that area, or are effected by the activities on that land, including; Snake River fall chinook salmon, Snake River spring/summer chinook salmon (listed in the Lower and Main Salmon subbasins only), Snake River steelhead trout, and Columbia River bull trout. An analysis and determination is also made for westslope cutthroat trout and non-listed spring chinook salmon (South Fork Clearwater and Middle Fork/Selway subbasins) because these species are listed as sensitive in Region 1, USFS. The description of all species is contained in this 4th code BA (page XX).

Program Descriptions

A) Road Maintenance

Road maintenance is generally necessary to prevent damage to facilities, maintain safety, and to preclude adverse impacts to resources resulting from lack of road maintenance. Generally, road maintenance includes surface maintenance (blading), surface replacement, drainage maintenance and repair, vegetation management (brushing, limbing, seeding, and mulching), slide repair (minor slope repair), sign maintenance, placement and maintenance of access controls, and major structure maintenance and repair, including bridges and large culverts. Replacement of major structures is generally a part of reconstruction and is not included here. Road condition surveys and evaluations and monitoring critical road segments after storm events are also included road maintenance activities for all maintenance levels.

II. Project Description

A. General

The above-named activities are routinely performed to maintain roads to a defined level (maintenance levels). Maintenance standards are not universally applied to every road across the forest. Depending on the road, different levels of these activities may be warranted.

Specific activities included are surface blading, ditch maintenance, culvert replacement or rebedding, opentop water bar maintenance, installation and maintenance of earth berms, concrete barriers, installation or improvement of existing water bars or rolling dips, brushcutting, boulder and down tree removal, bridge maintenance, and road sign and access control maintenance and replacement.

[1] The area managed by the Nez Perce Forest is slightly different than the area known as the Nez Perce National Forest, principally with respect to areas along the Snake River, in the Hells Canyon NRA.)

B. Description of Work Performed Under Road Maintenance Levels

1. Road Maintenance Level I

Roads maintained at these levels are generally closed. Level I maintenance activities include road condition surveys and evaluation of maintenance needs of the roads and any landings, minor hand cleaning of drainage structures, and reporting. When critical resource damage is reported, the repairs are scheduled and completed within funding limitations. Roadway activities such as blading, logging out, and repairs that can be delayed until the road is placed in an active status are deferred until a later date.

2. Road Maintenance Level II

Roads maintained at this level are restricted to some types and sizes of vehicles and are often seasonally closed. Normally these roads have limited or no surfacing, limited drainage structures, limited clearing limits, and are generally not to a maintainable standard. Often these roads may be traversed only by high clearance vehicles (usually 4x4 drive) at limited times of the year. Many of the roads at this level also have restrictions for trailers and larger recreational vehicle types due to physical limitations of the traveled way. Level II maintenance activities can include surface blading, drainage maintenance, structure maintenance, logging out, slide and slip cleanup and repair, sign maintenance and surfacing replacement. User comfort is not a consideration.

3. Road Maintenance Levels III, IV, and V

Roads maintained at these levels are usually open to all forest users. Road maintenance is designed to allow for the passage of public travel while providing for resource protection. Roads are maintained so that they are suitable for passenger vehicles. The anticipated highest maintenance level on the majority of roads is Level III, which allows for slow but safe travel. During commercial haul operations (haul of timber) and where dusting would cause safety concerns, dust abatement and more frequent blading may be needed (Level IV) on segments of multiple purpose collector roads. All of the Level V roads on the Forest have a permanent (paved) surface.

C. Maintenance Activity Descriptions

Drainage Maintenance

Drainage maintenance is performed to maintain the drainage pattern for the road, including structures (drop inlets, culverts, and opentops), ditchlines, and surface drainage (drivable dips, inslope and outslope surfaces).

Drainage structure maintenance involves the cleaning, repair, and replacement of minor drainage structures. Cleaned material is not flushed or deposited in streamcourses. During replacement of these structures in live water streams, the work area is dewatered. Generally, replacement of live water structures infrequent. Replacement of major structures is generally performed through reconstruction and is not included here.

Ditch maintenance is performed to allow continued proper drainage of the road and efficient function of the ditch. Over time, vegetation grows in the ditch, rocks and other material may fall or roll into the ditch, or deposited sediment accumulates to the point where it obstructs the flow of water. Ditches may headcut or downcut where grades are steep. Lack of ditch maintenance could result in water flowing across the travelway instead of in the ditch, leading to increased fillslope erosion or failures or ultimately to mass failure of the road surface.

Removal of undesirable materials which have fallen into the ditch ("cleaning") is accomplished by hand or heavy equipment. Materials removed during cleaning are loose and have not been incorporated into the roadbed . Heavier maintenance includes ditch "pulling" . Ditch pulling involves the use of bladed machine, such as a road grader, which cleans the ditch by running the blade along the bottom and sides of the ditch, thereby removing most or all of the excess embedded material. Ditch pulling is also used to remove vegetative build-up in short sections to allow the runoff to flow to the culvert cross drains. Excessively wet soils and removed vegetation from the ditches are often moved to the edge of the road so that they can dry , be separated and either be integrated back into the roadbed or removed to a disposal site.

When a cutslope failure has occurred, resulting in excess material in the ditch or roadway, a temporary ditch may be constructed around the slide to channel the water to a more desirable location, A longer-term solution generally involves removal of excess material and restoration of original ditch function, although removal of excess material carries with it the risk that the cutslope will be undercut and destabilized. Material is removed with a backhoe or front end loader and loaded into a dump truck for haul to an approved disposal area.

Surface drainage maintenance involves the construction and reshaping of drivable dips and travelway surfaces to maintain proper surface drainage.

Surface Maintenance

Surface maintenance includes surface blading and surfacing replacement

Surface blading is performed to keep the roadbed, either native or aggregate, in a condition to allow traffic and provide drainage. Blading removes ruts, potholes, and washboards, corrects improper templates, restores proper surface drainage, and repairs minor cracks and removes minor slumps. Blading maintains the crown or slope of the roadway and includes the shoulder, drainage dips, leadoff ditches, berms, and turnouts. Blading also provides a level of smoothness appropriate for the amount and type of traffic consistent with existing surfacing. Surface blading may be repeated during the year as often as necessary to allow traffic and provide for proper drainage, subject to available funds and moisture.

Existing roadbeds, including turnouts, are bladed and shaped to eliminate ruts and conform with the previously designed cross section. Existing aggregate surfacing material is bladed to conserve material and to prevent segregation of particle sizes. Blading is not normally done when aggregate moisture is too dry or wet to assure adequate compaction of the road surface. Rocks and other material larger than four inches are removed from the road surface. Rocks, soil, and debris are either incorporated into the roadway or removed to a designated waste area. Usually this material is not sidecast off the road. Instances where sidecasting may be permitted never include sidecasting into streamcourses or roads which are immediately adjacent to streams.

Oversized material and vegetative material such as limbs and branches are removed from arterial and multi-resource collector roads by high blading (i.e. the blade will be lifted to catch the oversized and other objectionable material while leaving the fines on the roadway).

At intersections, roadbeds of side roads are graded for a reasonable distance to assure proper blending of the two riding surfaces. Where necessary, drainage dips and leadoff ditches associated with the side roads are cleaned and maintained to conform to their previous line, grade, and cross section. Other blading practices include repairing and restoring earth berms to their original condition. Opentop culverts impacted by blading are cleaned using hand tools. Any fine materials removed from these culverts is incorporated back into the surface of the road.

Bridge Maintenance

Bridges are inspected biannually, and include superstructure, substructure, and approaches. Based on the results of the inspection process, necessary bridge maintenance work is scheduled. On an annual basis, bridge maintenance work includes; removal of material from the bridge deck surfaces, clearing abutments and piers of accumulated floating debris, replacing lost or damaged hazard markers and delineators and bolt tightening, On an as-needed basis bridge maintenance includes; running plank replacement (generally about once every ten years per timber bridge), spot painting (including sanding, wire brushing, sand blasting, priming), guard rail repair and replacement, and riprapping of piers and abutments. Generally, some of this work is performed on 1-5 sites each year.

When treated materials are used is conjunction with bridges, practices follow the Best Management Practices for the Use of Treated Wood in Aquatic Environments (July 1996). When lead-based paints are removed, introduction of these materials into streamcourses is prevented using Good Painting Practice (1966) guidelines. Instream work is permitted under both the Corps of Engineers and State of Idaho, Water Resources and Department of Environmental Quality permitting procedures.

Sign and Access Control Maintenance

Activities include: installation and maintenance of signs (including hazard, directional, travel management posters), route markers and mile post markers ; gate installation, maintenance and repair; and earth and concrete barrier installation maintenance and repair.

Dust Abatement

On high-use roads, (maintenance levels III & IV) the use of dust palliative (magnesium chloride, lignin sulfonate, or water) and/or permanent stabilization techniques may be employed. Application of these materials conforms to standard Forest Service specifications for roads and bridges.

Roadside Brushing

Normally, maintenance of cutslopes and fillslopes is limited to brush removal to maintain sight distance for drivers, but cutslope failures (slumps, slides) result in excess material delivered to the ditch or travelway and may require extensive work to correct the immediate and underlying problem. These activities are more fully described above under the Ditch Maintenance section.

Roadside brushing is performed on the unrestricted open road system (arterials and multi-purpose collector roads) to assure safe viewing distance. Another purpose is to manage the roadside vegetation to maintain slope stability through vegetative cover.

Brushing typically involves a combination of machine brushing and hand work. Machine brushing is the primary method. Hand work is most appropriate near streamcourses or areas where only limited amounts of vegetation needs removal. Brushing by hand allows the retention of as much surface stabilizing vegetation as possible. No more vegetation is removed than necessary.

Logging Out

Logging out is the removal of fallen trees, limbs, brush and other woody debris that has been deposited on cut and fill slopes and the traveled way of an open road. The amount of materials removed, and the disposal method varies with each road. The majority of the materials are removed from the traveled way and cut slopes and are deposited on the fill slopes or removed to a disposal site. Care is taken to ensure that loose limbs and portions of the logs are not placed on or below drainage structures. Materials that have fallen onto fill slopes are normally lopped off a short safe distance back from the traveled way and left unless they block drainage structures.

Minor Slope Repair

Road maintenance also includes minor shoulder repair, and minor cutslope repair. Typical repair on a shoulder includes subexcavation, rebuilding, and recompaction. Cutslope repair can include the cleaning and removal of slough material, reestablishment of ditchline and drainage, and in some instances, the addition of minor slope retainment structures such as drop inlets or rock buttresses. Disposal of slough materials is at approved disposal areas.

B) Minor Reconstruction and Emergency Repair

General

Activities included in this assessment consist of road reconstruction activities of limited scope and nature and repair activities of an emergency nature.

Road reconstruction activities included are drainage improvements and upgrades, subgrade preparation and improvements, localized slope repair and stabilization, limited vegetation removal, vegetation establishment, and surfacing. These activities generally remain within the limit of the existing road prism and do not involve extensive additional disturbance. Activities not included in this assessment are activities that involve significant additional disturbance such as relocation, the addition of travelway width over extended lengths, major additional clearing, reopening of brushed in roads, etc.

Emergency road repair (due to storm and weather events or travel safety concerns) such as landslide removal and stabilization, or culvert and drainage repair, is performed as problems arise. Emergency maintenance work is exceedingly important because such work often precludes further serious events such as a culvert washing out or a fill shoulder failure from occurring. Emergency road repair work usually entails restoring or remediating the road prism or

drainage system or both. Work generally occurs at a well defined site, usually involving less than 100 lineal feet of road. The two most common repairs are to damaged road embankments (fill) and to damaged drainage sites.

Drainage Repair, Replacement and Improvement

When repairing a drainage structure or improving the drainage, consideration must be given to the cause of failure or reason for deficiency in order to avoid future failures to the extent practical. Consideration is given to flow requirements and road management requirements (PACFISH). In live water crossings, work areas will be dewatered during repair or replacement. Additional drainage (culverts) may be needed to improve overall drainage performance of the road section, and is included as an activity in this assessment.

Subgrade Reconditioning

Subgrade reconditioning may be required on some sites or road sections to strengthen the subgrade, reestablish proper template to provide for surface drainage, or to prepare a roadway for aggregate placement.

Strengthening a subgrade usually involves the placement of aggregate, geotextile, or other product on or in the subgrade, work is confined to the existing travelway.

Reestablishing proper template to provide for surface drainage and preparing for aggregate placement usually involves a road grader shaping the traveled way. Work is confined to the existing traveled way.

In some cases milling of the subgrade is necessary to treat boulders and bedrock. In this instance a rotary machine is employed that grinds roadway materials to depth sufficient for the project, generally about six inches. This work is confined to existing traveled way.

Surfacing

Surface application involves application of surfacing materials, processing, grading, and compacting of materials. This work is confined to the traveled way.

Slope Repair and Stabilization

Work associated with slope repair and stabilization generally is confined to discrete sections of roadway and is limited to existing template. Work may involve treatments to either the cutslope or fill slope and is often integrated with drainage considerations. Typical treatments include physical structures such as rock buttress, gabion walls and the like. Associated drainage treatments may typically include drop inlet structures or subgrade drains.

Vegetation treatments

Vegetation treatments may include incidental tree removal or limited brushing. Vegetation treatments also include measures to establish revegetation on any disturbed sites. This typically includes seeding and fertilizing any disturbed areas. Follow-up direct planting may also occur depending upon site.

Bridge Repair

Bridge repair activities of an emergency nature may include work on superstructure, approach fills, abutments and piers, and stringers and girders as follows:

Impacts to approach rails or superstructure elements such as bridge rail, decking or curbs will require immediate repair if it presents an immediate safety hazard.

Approach fills may need immediate attention and repair due to flooding that encroaches upon the traveled way or presents an immediate hazard to the integrity of the structure.

Scour of piers and abutments due to flood conditions may require work within the stream channel to armor against structure failure.

Damage to stringers and girders due to overloaded vehicles or debris during flooding may require work within the channel area to replace or repair the affected members.

Bridge repair activities not of an emergency nature that are included in this assessment are limited to work that does not involve instream work.

C) Snow Removal

Snow removal occurs to insure safe and efficient seasonal transportation. Activities are designed to prevent unacceptable erosion damage to roads, streams, and adjacent lands. Removal includes the entire road width and turnouts. Snow slides, minor earth slides, fallen timber, and boulders that obstruct normal road surface width, including turnouts, are also removed. Culverts and ditches may be cleared to assure that drainage will function effectively.

Program Activity Level

Road Maintenance and Minor Reconstruction and Emergency Repair

The following table summarizes the level of activity, by subbasin, expected to occur.

Activity	SF Clearwater	Selway	Middle Fork Clearwater	Lower Salmon	Main Salmon
Condition Inventories (miles)	1000-1500	50-200	100-300	400-600	200-400
Surface Blading (miles)	100-300	50-150	50-100	100-200	50-150
Roadside Brushing (miles)	20-40	20-40	10-20	10-20	10-20
Minor Reconstruction (miles)	0-20	0-20	0-20	0-20	0-20
Bridge & Major Culvert Maint & Repair (each)	0-10	0-10	0-5	0-5	0-10

Snow Removal

Snow removal activities are expected to occur on 50 to 100 miles annually.

Project Design Criteria (Mitigation Measures)

These project design criteria address potential adverse effects such that they can be avoided or minimized to the point of being negligible, or discountable. They are often discussed in the program description, and listed here as a summary.

Road Maintenance

1. For road segments that parallel streamcourses, brushing operations will consider the need for stream shade along with safety considerations. This may necessitate hand brushing, partial brushing, or limbing, with consideration for providing growth for future shade.

2. Sidecasting of materials will not occur where these materials may be introduced into a stream, or where the placement of these materials will contribute to destabilization of the slope.

3. Cleaned materials from culverts and open tops will not be flushed or deposited in streamcourses.

4. During ditch maintenance, the undercutting of cutslopes will be avoided.

5. Waste materials removed during maintenance activities will be deposited in approved disposal areas.

6. When removing down logs in the road which extend into a stream, any material on the fill slope and in the stream will remain (not be removed) to provide for woody debris recruitment, except in cases where the retention of this material would result in a safety concern (i.e. downstream facilities).

7. In live water crossings, work areas will be dewatered during repair and replacement.

Minor Reconstruction

1. For any repair work in streams occupied by listed fish, instream work will be timed to avoid disturbance of staging adult fish, redds, or gravels with unemerged juveniles where possible. Timing restrictions may be waived in cases of overriding safety concerns or the threat of further severe resource damage.

2. During replacement or repair of structures in live water stream, the work area will be dewatered.

3. Disturbed areas will be seeded following work, mulch may be applied.

4. Berms, sediment basins, or sediment traps will be constructed where required to contain sediment from the damage/repair site.

5. Fuel storage and fueling of equipment will not occur within streamside RHCAs.

6. Before working in a stream channel or in a streamside RHCA, all heavy equipment or other machinery will be inspected for hydraulic or other leaks. Leaking or faulty equipment will not be used. Equipment with accumulations of oil, grease, or other toxic materials will be cleaned off prior to use in these areas.

7. Blasting within 300 feet of streams occupied by listed fish will be timed to avoid disturbance of staging adult fish, redds, or unemerged juveniles.

Snow Removal

1. Snow will not be completely removed. In general, a minimum two inches of snow must be left on the roadway during plowing operations to protect the surface of the road.

2. Ditches and culverts will be made functional during snow plowing operations.

3. Sidecast material will not include dirt and gravel.

4. Snow berms will not be left on the road or shoulder unless drainage holes are opened and maintained. Drainage holes will be spaced as required to obtain satisfactory surface drainage without discharge on erodible fills.

5. Damage from, or as a result of snow removal, will be restored in a timely manner.

Program Evaluation, Monitoring, and Reporting

A) Road Maintenance

1. All projects, prior to implementation, will be evaluated by the unit fish biologist to determine consistency with this BA and resulting consultation. Project consistency will be documented as an addendum to this BA (Appendix XX). Projects that are not consistent with the design criteria in this assessment will proceed through project-level assessment and consultation. Annual presentation and evaluation of scheduled road maintenance program to unit line officer and specialists (i.e. road maint scheduling meetings) will occur. Areas of special consideration (due to resource sensitivity) will be identified and documented (i.e. meeting notes).

2. Significant changes in the annual program of work, or significant new projects, will be reviewed by the unit fish biologist prior to implementation. Project consistency with this BA will be documented as an addendum to this BA.

3. An annual monitoring report on program completed under this assessment and consultation will be completed and presented to the Level 1 team by March 1st of each year. The monitoring report will include:Summary of work accomplished (using the annual road management report) and Implementation results for areas of special consideration.

B) Minor Reconstruction and Repair

1. All projects, prior to implementation, will be evaluated by the unit fish biologist to determine consistency with this BA and resulting consultation. Project consistency will be documented as an addendum to this BA (Appendix XX). Projects that are not consistent with the design criteria in this assessment will proceed through project-level assessment and consultation.

2. An annual monitoring report on projects completed under this assessment and consultation will be completed and presented to the Level 1 team by March 1st of each year. The monitoring report will include:

Summary of work accomplished (using the annual road accomplishment report).
Summary of implementation results.

C) Snow Removal

1. All projects, prior to implementation, will be evaluated by the unit fish biologist to determine consistency with this BA and resulting consultation. Project consistency will be documented as an addendum to this BA (Appendix XX). Projects that are not consistent with the design criteria in this assessment will proceed through project-level assessment and consultation.

Effects Analysis

1. Direct Effects

a. Road Maintenance

The potential adverse effects of road maintenance must be considered in the context of performing maintenance versus possible consequences of not maintaining roads. Lack of road maintenance could result in more deleterious impacts to streams, ranging from washouts due to culvert and ditch failures to increased risk of vehicle accidents resulting in potential toxin introduction (fuel) into streams. Stream crossings pose the greatest risk to fish habitats of any road feature. Maintenance of both the crossing structure itself and local sediment effects are essential to preventing a severe sedimentation event. Installation of an appropriate-sized crossing structure as well as maintenance of the structure is critical.

The greatest risk of adverse effects occur when roads are located in RHCAs, both streamside and landslide prone. A majority of the effects associated with these roads is from the roads themselves, the road maintenance activities in these situations have an increased potential to cause adverse effects and should be considered for identification as areas of special consideration.

1. Effects to Sediment Indicators (Suspended Sediment, Cobble Embeddedness, Percent Surface Fines, and Percent Fines by Depth)

Road maintenance activities can result in direct sediment delivery to streams. Ground disturbance from road blading, particularly where the road is immediately adjacent to streams, constitutes the greatest risk from increased sediment introduction. Other activities such as culvert and ditch maintenance may also increase sediment delivery to streams. Brushing may reduce stabilizing vegetation on cut and fill slopes, contributing to sediment effects.

Design criteria have been developed to address potential effects to sediment indicators. These include avoidance of sidecasting materials into streams, avoidance of undercutting sideslopes during ditch maintenance, disposal of waste materials in approved areas, and dewatering live water crossings during repair and replacement of in-channel structures.

Given implementation of these criteria, we believe that effects to sediment indicators from road maintenance are insignificant.

2. Effects to Temperature Indicators

Road maintenance can result in reduction or removal of streamside vegetation through brushing activities, possibly resulting in temperature increases. The risk of temperature increases is highest in small streams where the road parallels the stream for some distance.

A design criterion has been developed to address potential effects to temperature indicators. This includes consideration of the need for stream shade in brushing operations, which may require hand brushing, partial brushing, no brushing, and consideration for future growth of vegetation.

Because understory brush along streams does not generally contribute a proportionately large percentage of the total shade to streams (i.e. most shade is provided by overstory vegetation), roadside brushing is expected to have no or an insignificant effect on stream temperature. Where brush does contribute significantly to shading the stream, the above criterion is expected to reduce potential effects to temperature to the insignificant level.

3. Effects to Other Indicators

No direct effects to other indicators are expected as a result of road maintenance activities.

b. Minor Reconstruction and Repair

1. Effects to Sediment Indicators

Minor reconstruction and emergency repair activities have the potential to result in direct sediment delivery to streams, principally from drainage repair/replacement and slope repair activities. Drainage repair and replacement have the greatest potential in live water crossings. Cross drain structures, which carry water during periods, are often discharged onto the forest floor and not into live water. Where these cross drains are near streams, the potential effects from repair and replacement of these activities increases.

Design criteria have been developed to address risks associated with these activities. These include dewatering of live water crossings during repair or replacement of structures, construction of berms, sediment traps, or sediment basins where required to contain sediment at the site, and seeding, planting, and mulching will occur as necessary at the site.

Implementation of these criteria is expected to reduce the level of impact from sediment to insignificant.

2. Effects to Take Indicators

Bridge repair or crossing structure repair or replacement activities have the potential to cause adverse effects from the take or harassment of species when conducted in the stream channel.

Design criteria have been developed to address this risk. These include timing instream work to avoid disturbance of staging adult fish, redds, or gravels with unemerged juveniles and avoidance of blasting within 300 feet of streams when staging adults, redds, or unemerged juveniles may be present (listed fish).

Implementation of these criteria is expected to reduce the risk of harassment and take to the discountable level.

3. Effects to Chemical Contamination Indicators

Bridge repair and crossing structure repair or replacement could result in introduction of toxic materials (fuel) into streams, especially when heavy equipment is used in or near live water.

Design criteria have been developed to address this risk. These include avoidance of fuel storage and fueling equipment in RHCAs and inspection of equipment prior to use in stream channels or streamside RHCAs to ensure equipment is not faulty or leaking.

Implementation of these criteria is expected to reduce the risk of effects from toxins to the discountable level.

c. Snow Removal

Snow removal has the potential to cause adverse effects from the introduction of sediment. If the design criteria for snow removal are implemented, effects from this activity are expected to be insignificant.

2. Indirect Effects

The principal effects associated with roads is from the existence of the roads themselves, and the use of these facilities. The minor reconstruction and repair activities have the potential to cause adverse effects, but these are minimal and short-term in nature in comparison to the effects of the roads themselves.

Maintenance of these roads, while helping to prevent adverse effects over the short-term, also helps ensure that the roads will exist in the future. Road maintenance also facilitates human access into areas where they would otherwise not go, or at least fewer people would go. Even when closed to motorized use, roads provide an easy walking surface and provide access for hikers, packstock, and illegal motorized users which might not otherwise occur.

Public use of the roads, trails, and airfields managed on the Forest has the potential to cause adverse effects to aquatic species. The effects of these activities are not considered interrelated and interdependent to the actions considered here.

Roads, trails, and airfields have the potential to cause adverse effects simply through their existence.

Without any further human involvement, these facilities can disrupt physical processes, and cause or exacerbate changes in ecosystem processes and physical habitat for aquatic species. These effects are not considered interrelated or interdependent to the actions considered here.

Issues associated with human uses on these facilities and continuing impacts from the facilities themselves will be addressed separately in the future through development of the Forest's transportation/travel plan.

2. Interrelated and Interdependent Actions

There are no known interrelated or interdependent USFS actions associated with road maintenance that have not already been described and analyzed.

3. Cumulative Effects

Cumulative effects associated with these activities are identified and discussed in the 4th code subbasin BA's.

Determination

1. Road Maintenance

The determination for the Nez Perce National Forest road maintenance program is May Affect, Not Likely to Adversely Affect for spring/summer chinook salmon, fall chinook salmon, sockeye salmon, bull trout, and steelhead trout in the Lower Salmon subbasin. The determination is May Affect, Not Likely to Adversely Affect for fall chinook salmon, steelhead trout and bull trout in the Clearwater basin. These determinations are based on implementation of all applicable design criteria and monitoring and reporting as described above.

May Affect, Not Likely to Adversely Affect determinations are based on potential increases in surface sediment erosion from ground disturbance associated with blading, culvert cleaning, and ditch cleaning, particularly where segments of roads are adjacent to streams. Brushing and snow plowing could also cause localized impacts. A key part of this determination is implementation of the design criteria as described above. Potential risks and impacts are reduced to the discountable and insignificant level with implementation of the design criteria. Without design criteria implementation, impacts could be more severe depending on the location of the activity.

The determination for non-listed spring chinook salmon and westslope cutthroat trout is May Impact, But Will Not Lead to Loss of Viability or a Trend Towards Federal Listing.

2. Minor Reconstruction and Repair

The determination for the Nez Perce National Forest for minor repair and emergency road repair program is May Affect, Not Likely to Adversely Affect for spring/summer chinook salmon, fall chinook salmon, sockeye salmon, bull trout, and steelhead trout in the Lower Salmon subbasin. The determination is May Affect, Not Likely to Adversely Affect for fall chinook salmon, steelhead trout and bull trout in the Clearwater basin. These determinations are based on implementation of all applicable design criteria and monitoring and reporting as described above. Implementation of these criteria is expected to result in risks and effects reduced to the discountable and insignificant level.

The determination for non-listed spring chinook salmon and westslope cutthroat trout is May Impact, But Will Not Lead to Loss of Viability or a Trend Towards Federal Listing.

3. Snow Removal

The determination for snow removal on the Nez Perce National Forest is May Affect, Not Likely to Adversely Affect for spring/summer chinook salmon, fall chinook salmon, sockeye salmon, bull trout, and steelhead trout in the Lower Salmon subbasin. The determination is May Affect, Not Likely to Adversely Affect for fall chinook salmon, steelhead trout and bull trout in the Clearwater basin. These determinations are based on implementation of all applicable design criteria and monitoring and reporting as described above.

The determination for non-listed spring chinook salmon and westslope cutthroat trout is May Impact, But Will Not Lead to Loss of Viability or a Trend Towards Federal Listing.

Road Management Program[2] Summary

Program Area Program Description Activities Included	**Level of Activity**	**Project Design Criteria**	**Project Evaluation, Monitoring & Reporting**
Road Maintenance Road maintenance is generally necessary to prevent damage to facilities, maintain safety, and to preclude adverse impacts to resources. Activities included are all road maintenance activities (Levels I, II, III, IV, and V), including: → **surface maintenance,** → **ditch maintenance,** → **minor slope repair,** → **crossing maintenance,** → **culvert cleaning,** → **bridge maintenance** → **condition surveys** that include the project design criteria, evaluation, monitoring and reporting requirements listed here. Work may be accomplished by force account, contractor, or permittee.	The expected level of road maintenance activity (as a percentage of the roads), per subbasin: **Level I** --- 50-100% **Level II** --- 5-10% **Level III & IV** --- 10-15% **Level V** --- 0-5% There is no annual authorized limit for the amount of road maintenance that can occur under this assessment and	1. For road segments that parallel streamcourses, brushing operations will consider the need for stream shade along with safety considerations. This may necessitate hand brushing, partial brushing, or limbing, with consideration for providing growth for future shade. 2. Sidecasting of materials will not occur where these materials may be introduced into a stream, or where the placement of these materials will contribute to destabilization of the slope. 3. Cleaned materials from culverts and open tops will not be flushed or deposited in streamcourses. 4. During ditch maintenance, the undercutting of cutslopes will be avoided. 5. Waste materials removed during maintenance activities will be deposited in approved disposal areas. 6. When removing down logs in the road which extend into a stream, any material on the fill slope and in the stream will remain (not be removed) to provide for woody debris recruitment, except in cases where the retention of this material would result in a safety concern (i.e. downstream facilities).	**1-** Annual presentation and evaluation of scheduled road maintenance program to unit line officer and specialists (i.e. road maint scheduling meetings). **Areas of special consideration** (due to resource sensitivity) **will be identified and documented** (i.e. meeting notes). Project consistency with this BA will be documented as an addendum to this BA. **2-** Significant changes in the annual program of work, or significant new projects, will be reviewed by the unit fish biologist prior to implementation. Project consistency with this BA will be documented as an addendum to this BA. **3-** An **annual monitoring report** on projects completed under this assessment and consultation will be completed and presented to the Level 1 team by March 1st of each year. The monitoring report will include: å Summary of work accomplished. Å Implementation results for areas of special consideration.

[2] Including trails and airfields as components in the forest transportation system.

	consultation.		

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Minor Road Reconstruction and Road Repair Minor road reconstruction and emergency road repair programs are less frequent, but more extensive mgt of the existing road system. Activities included in this assessment are: **→subgrade preparation** **→ surface replacement,** **→drainage replacement,** **→drainage repair, shoulder** **→shoulder & slope reconstruction.** activities that include the project design criteria, evaluation, monitoring and reporting requirements listed here. Work may be accomplished by force account, contractor, or permittee.	The expected level of road reconstruction activity (in miles) per subbasin: **Expected Level** **----------** 0 - 20 Miles The authorized limit for the amount of road reconstruction per subbasin that can occur under this assessment and consultation: **Authorized Limit** **----------** 50 Miles	1. In streams occupied by listed fish, instream reconstruction work will be timed to avoid disturbance of staging adult fish, redds, or gravels with unemerged juveniles. 2. Emergency repair in streams occupied by listed fish, instream work will be timed to avoid disturbance of staging adult fish, redds, or gravels with unemerged juveniles where possible. Timing restrictions may be waived in cases of overriding safety concerns or the threat of further severe resource damage. 3. During replacement or repair of structures in live water stream, the work area will be dewatered. 4. Disturbed areas will be seeded following work, mulch may be applied. 5. Construct berms, sediment basins, or sediment traps, where required to contain sediment from the damage/repair site. 6. Blasting within 300 feet of streams occupied by listed fish will be timed to avoid disturbance of staging adult fish, redds, or unemerged juveniles, except in cases of overriding safety concerns or the threat of further severe resource damage.	**1-** All projects will be evaluated by the unit fish biologist to determine consistency with this BA and resulting consultation. Project consistency will be documented as an addendum to this BA. **2-** An annual monitoring report on projects completed under this assessment and consultation will be completed and presented to the Level 1 team by March 1st of each year. The monitoring report will include: Summary of work accomplished. Summary of implementation results.

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Snow Removal Snow removal is conducted to allow seasonal access. All snow removal along roads, for any purpose, that include the project design criteria, evaluation, monitoring and reporting requirements listed here are included in this assessment and consultation. Work may be accomplished by force account, contractor, or permittee.	The expected level of snow removal activity (in miles) per subbasin is: **Expected Level** **----------** 50-100 Miles The authorized limit for the amount of snow removal that can occur under this assessment and consultation: **Authorized Limit** **----------** 150 Miles	1- Snow will not be completely removed. In general, a minimum two inches of snow must be left on the roadway during plowing operations to protect the surface of the road. 2- Ditches and culverts will be made functional during snow plowing operations. 3- Sidecast material will not include dirt and gravel. 4- Snow berms will not be left on the road or shoulder unless drainage holes are opened and maintained. Drainage holes will be spaced as required to obtain satisfactory surface drainage without discharge on erodible fills. 5- Damage from, or as a result of snow removal, will be restored in a timely manner.	**1-** All projects will be evaluated by the appropriate unit specialist to determine consistency with this BA and resulting consultation. Project consistency will be documented as an addendum to this BA.